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6. A building unit according to any of the preceding claims, wherein it is adapted to be assembled with at least one other building unit (1, 1', 2).

5        7. A building including at least one room (3), enclosed by walls (6), a roof (7) and a floor (12), for accommodating radiating equipment (5) for treatment, therapy or diagnosing by means of ionizing radiation, the walls, the roof and the floor of said building (1, 1')  
10        serving as a radiation shielding barrier for preventing radiation at health-impairing levels from escaping to the outside of the building structure, wherein at least two of the walls and the roof comprises a double walled structure comprising an inner (8) and an outer (9) partition element with a space (10) defined therebetween, and  
15        a filling inlet through which the space is fillable with a fillable material to allow filling of the space with the fillable material once the building is located at an operating site, where it is to be used, to provide a radiation shielding barrier with a sufficient shielding capacity.  
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8. A building according to claim 7, wherein the space (10) forms a closed, liquid impermeable tank.  
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9. A building according to claim 8, wherein there are two or more separate tanks (10) in the building.

10. A building according to claim 8, wherein the  
30        tank (10) contains water.

11. A building according to claim 8, wherein it comprises a system for monitoring the water level.

35        12. A building according to claim 8, wherein it comprises a system for temperature control of the water.

13. A building according to claim 7, wherein the spaces (10) contains sand.

14. A building according to claim 7, wherein it is adapted for treatment of humans.

15. A building according to claim 7, wherein it is assembled of two or more building units (1, 1').

16. A building according to any of the claims 7-15, wherein at least three of the walls and the roof comprises a double walled structure.

17. A method for constructing a building of the type including at least one room (3), enclosed by walls (6), a roof (7) and a floor (12), adapted for accommodating radiating equipment (5) for treatment, therapy or diagnosing by means of ionising radiation, including to construct the walls, the roof and the floor of said room as a radiation shielding barrier for preventing radiation at health-impairing levels from escaping to the outside of the building during operation of the radiating equipment, characterised by the steps;  
to construct the building in a modular form as a mobile unit (1, 1') including at least two walls (6), a roof (7) and a floor (12);  
to construct at least two of the walls and the roof of the building unit as a double walled structure comprising an inner (8) and an outer (9) partition element forming a closed space (10) therebetween;  
to transport the mobile unit to an operating site and assemble it there; and  
to fill the spaces with a fillable material to provide a radiation shielding barrier with a sufficient shielding capacity.

18. A method according to claim 17, including the further step to fill the spaces (10) with water.

19. A method according to claim 17, including the  
5 further step to fill the spaces (10) with sand.

20. A method according to claim 17, including the further step to use the building for treatment of humans.

10           21. A method according to any of the claims 17-20,  
including the further step to assemble the building of at  
least two building units (1, 1').